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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/693,195

10/24/2003

Randall R. Geib

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2326

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10/03/2006

DANN, DORFMAN, HERRELL & SKILLMAN
1601 MARKET STREET
SUITE 2400
PHILADELPHIA, PA 19103-2307

EXAMINER

GARCIA, ERNESTO

ART UNIT

PAPER NUMBER

3679

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,195

Applicant(s)

GEIB, RANDALL R.

Examiner

Ernesto Garcia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 21-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 11, 2006 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

Claims 9 and 29 is objected to because of the following informalities:

regarding claim 9, "threads" in line 10 should be --thread-- or --threaded portion--;
and,

regarding claim 29, "the external surface" in line 1 should be --an external surface--. Appropriate correction is required. For purposes of examining the instant invention, the examiner has assumed these corrections have been made.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 27 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 27, the recitation "the first connector is one of a flange and a mating groove ..., and the second connector is the other of the flange and the mating groove" in lines 1-3 is nowhere found in the disclosure. Further, the specification does not have support that either the flange or the groove can be the first connector in the alternative. According to Figure 4, both the groove 46 and the flange 48 are require at the same instance and not in the alternative.

Claims 27 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 27, the recitation "is one of a flange and a mating groove configured to retain the flange within the groove" in lines 1-2 is unclear. Since the language "one of" refers to either the flange or the groove, how can the configuration of the mating groove be possible without the flange in the alternative. Note that the second condition makes unclear what configuration of the mating groove is required to allow the groove to retain the flange within the groove.

Regarding claim 29, the recitation "the major diameter of the outer sleeve external surface" in lines 3-4 lacks proper antecedent basis since the claim has not set forth a major diameter. Further, for there to be a major diameter, a minor diameter of the external surface has to be recited.

Claim Rejections - 35 USC § 102

Claims 9, 10, 13, 14, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Muellenberg, 5,067,847 (see marked-up attachment provided in the Office action mailed on February 23, 2005).

Regarding claim 9, Muellenberg discloses, in Figures 3 and 11, a device, comprising a one-piece inner sleeve **10**, a nut **30**, and an outer sleeve **20**. The inner sleeve **10** has a forward end **A15** and a rearward end **A31**. The inner sleeve **10** comprises a threaded portion **8**, a frustoconical external surface **6** and an internal bore **5**. The frustoconical external surface **6** has a major diameter **A35** adjacent the threaded portion **8** and a minor diameter **A14** spaced from the major diameter **A35** toward the forward end **A15** of the inner sleeve **10**. The nut **30** has a threaded portion **15** at one end **A25** and a circumferential flange **17** at a distal end **A34**. The outer sleeve **20** has a forward end **A8** and a rearward end **A37**. The outer sleeve **20** comprises a frustoconical interior surface **12**, an exterior surface **12** and a circumferential interlock **13**. The frustoconical interior surface **12** correspond in angle of taper to the frustoconical external surface **6** of the inner sleeve **10**. The frustoconical interior surface **12** has a major diameter **A9** and a minor diameter **A7**. The major diameter **A9** is adjacent the rearward end **A31** and the minor diameter **A7** is adjacent the forward end **A8**. The exterior surface **12** corresponds to the bore **4** of the machine element **3**. The circumferential interlock **13** engages the flange **17** of the nut **30**.

Applicant should note that upon rotating the nut in a first direction, inherently, the threaded portion of the inner sleeve displaces the inner sleeve in one direction relative to the nut and the outer sleeve thereby displacing the major diameter of the inner sleeve external surface toward the minor diameter of the outer sleeve internal surface. Displacements cause the internal bore of the inner sleeve to contract against a shaft

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and the external surface of the outer sleeve to expand against a bore of a machine element.

Regarding claim 10, the flange **17** extends radially outwardly and the nut **30** further comprises an annular groove **16** adjacent the flange **17**. The outer sleeve **20** is a one-piece sleeve having sufficient resilience.

Regarding claim 13, the outer sleeve **20** comprises a stop **A29**.

Regarding claim 14, end **A45** of the inner sleeve **10** is continuous about the circumference.

Regarding claim 21, applicant should note that rotating the nut in a second direction inherently displaces the inner sleeve rearwardly relative to the nut, thereby loosening the inner sleeve from a shaft and the outer sleeve from a bore of a machine element.

Claim Rejections - 35 USC § 103

Claims 1-8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muellenberg, 5,067,847, in view of Geib, 6,361,243.

Regarding claim 1, Muellenberg discloses, in Figures 3 and 11, a device comprising a nut **30**, an outer sleeve **20**, and an inner sleeve **10**. The nut **30** has a threaded portion **15** and a first connector **16**. The outer sleeve **20** comprises an external surface **12**, a tapered internal surface **11**, at least one axial slot **A10** (col. 4, lines 62-64) and a second connector **13**. The tapered internal surface **11** has a minor diameter **A7** adjacent a forward end **A8** of the outer sleeve **20** and a major diameter **A9** spaced rearwardly from the forward end **A8**. The axial slot **A10** extends longitudinally along the outer sleeve **20**. The second connector **13** is connected with the first connector **16**. The inner sleeve **10** comprises a tapered external surface **6** corresponding in angle of taper to the tapered internal surface **11** of the outer sleeve **20**. The inner sleeve **10** has a minor diameter **A14** adjacent a forward end **A15** of the inner sleeve **10** and a major diameter **A35** spaced rearwardly from the forward end **A15** of the inner sleeve **10**. The inner sleeve **10** has a threaded portion **8** remote from the forward end **A15** of the inner sleeve **10** and cooperates with the thread portion **15** of the nut **30**.

However, Muellenberg fails to disclose the external surface **12** being a tapered external surface **12**. Geib discloses an external surface of an outer sleeve **22** being tapered thus a tapered external surface to correspond to a bore of a machine element (col. 2, lines 36-39). Therefore, as taught by Geib, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the external surface **12** tapered thus a tapered external surface to correspond to a tapered bore of a machine element.

Applicant should note that rotating the nut in a first direction inherently displaces the inner sleeve forwardly relative to the nut, which displaces the major diameter of the external surface of the inner sleeve toward the minor diameter of the outer sleeve internal surface.

Regarding claim 2, the outer sleeve **20** comprises axial slots **A10** extending longitudinally along the outer sleeve **20**. The axial slots **A10** provide sufficient radial flexibility.

Regarding claim 3, the first connector **16** comprises a circumferential groove **16** and the second connector **13** comprises a flange **13** extending radially inwardly. The outer sleeve **20** is sufficiently resilient such that the outer sleeve **20** contracts.

Regarding claim 4, as modified above, the tapered external surface **12** of the outer sleeve **20** will have a minor diameter. The nut **30** has an external diameter **A22** greater than the minor diameter of the external surface **12** of the outer sleeve **20**.

Regarding claim 5, the external surface **12** of the outer sleeve **20** has a major diameter **A23** and the outer sleeve **20** comprises an external flange **13** extending radially outwardly adjacent the major diameter **A23** of the external surface **12** of the outer sleeve **20**.

Regarding claim 6, one end **A55** of the inner sleeve **10** is continuous about the circumference.

Regarding claim 7, the outer sleeve **20** is a one-piece sleeve comprising a slot **A18** (col. 4, lines 62-64) forming a section connected by a web **A28**. However, Muellenberg fails to disclose the slot **A10** being a plurality. Geib teaches, in Figure 1, a one-piece sleeve comprising a plurality of slots **27** to provide sufficient flexibility of an outer sleeve **21**. Therefore, as taught by Geib, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make more than one slot on the outer sleeve to provide sufficient flexibility of the outer sleeve.

Regarding claim 8, the outer sleeve **20** comprises a stop **A29**.

Regarding claim 23, Muellenberg, as modified, fails to disclose the threaded portion of the nut and the threaded portion of the inner sleeve being cooperating left hand threads. Applicant is reminded that right hand threads or left hand threads are obvious variations since both accomplish the exact same axial motion. Since right hand threads are conventional, it would have been obvious to switch to left hand threads as part of preference. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to either choose left hand threads over right hand threads for preference since both accomplish the same task.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muellenberg, 5,067,847.

Regarding claim 22, Muellenberg, as modified, fails to disclose the threaded portion of the nut and the threaded portion of the inner sleeve being cooperating left hand threads. Applicant is reminded that right hand threads or left hand threads are obvious variations since both accomplish the exact same axial motion. Since right hand threads are conventional, it would have been obvious to switch to left hand threads as part of preference. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to either choose left hand threads over right hand threads for preference since both accomplish the same task.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muellenberg, 5,067,847, in view of Stegeman et al., 5,308,183.

Regarding claim 11, Muellenberg, as discussed above, fails to disclose the frustoconical external surface of the outer sleeve having a minor diameter adjacent the forward end **A8** of the outer sleeve **20** and a major diameter spaced rearwardly from the minor diameter. Stegeman et al. teach, in Figure 2, an external surface **46** comprising a frustoconical external surface having a minor diameter spaced adjacent a forward end of an outer sleeve **22** and a major diameter spaced rearwardly from the minor diameter to engage a tapered bored in a machine element **14**. Therefore, as taught by Stegeman

et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the external surface **12** a tapered external surface to engage a tapered bore in the machine element.

Regarding claim 12, given the modification above, Muellenberg discloses the nut **30** having an external diameter **A22** greater than the major diameter of the external surface **12**.

Claims 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soussloff, 4,600,334.

Regarding claim 24, Soussloff discloses, in Figure 9, a device comprising a nut **30**, an outer sleeve **34**, and an inner sleeve **120**. The nut **50** has a threaded portion **51** and a first connector **A1**. The outer sleeve **34** comprises a tapered internal surface **32** and a second connector **56**. The second connector **56** is connected with the first connector **A1**. The inner sleeve **120** comprises a tapered external surface **25**, an interior bore **A2**, and a threaded portion **123**. The tapered external surface **25** corresponding in angle of taper to the tapered internal surface **32** of the outer sleeve **34**. The threaded portion **123** is remote from a forward end of the inner sleeve **120** and cooperable with the threaded portion **51** of the nut **30**. However, Soussloff fails to disclose the threaded portion **51** of the nut **30** and the threaded portion **123** of the inner sleeve **120** being left-handed. Applicant is reminded that right hand threads or left hand

threads are obvious variations since both accomplish the exact same axial motion. Since right hand threads are conventional, it would have been obvious to switch to left hand threads as part of preference. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to either choose left hand threads over right hand threads for preference since both accomplish the same task.

Applicant should note that rotating the nut in a first direction inherently displaces the inner sleeve forwardly relative to the nut, which displaces the major diameter of the external surface of the inner sleeve toward the minor diameter of the outer sleeve internal surface.

Regarding claim 25, the internal surface **32** of the outer sleeve **34** has a minor diameter adjacent a forward end **A10** of the outer sleeve and a major diameter spaced rearwardly from the forward end **A10**. The internal surface of the inner sleeve **120** has a minor diameter adjacent a forward end of the inner sleeve **120** and a major diameter spaced rearwardly from the forward end of the inner sleeve **120**.

Regarding claim 26, given the modification of claim 25, above, rotating the nut **50** in a first direction displaces the major diameter of the external surface **25** of the inner sleeve **120** toward the minor diameter of the internal surface **32** of the outer sleeve **120**.

Regarding claim 27, the first connector A1 is a mating groove configured to retain a flange A3 within the groove, and the second connector is the flange A3.

Regarding claim 28, the outer sleeve 34 comprises axial slots A4 extending longitudinally along the outer sleeve 34. Note that the configuration and orientation of the slots provide sufficient radial flexibility.

Regarding claim 29, an external surface 36 of the outer sleeve 34 has a major diameter and the outer sleeve 34 comprises an external flange A5 extending radially outwardly adjacent the major diameter of the external surface 36.

Regarding claim 30, the outer sleeve 34 comprises a stop A5.

Response to Arguments

Applicant's arguments filed September 11, 2006 have been fully considered but they are not persuasive.

With respect to Muellenberg, 5,067,847, applicant continues to argue that the device operates quite differently from Muellenberg. Applicant is reminded that the method of operation does not define patentability in structure claims. Applicant has not argued what structural feature or features Muellenberg fails to teach. The examiner has

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made a prima facie case of anticipation since Muellenberg teaches all the structural limitations of the rejected claims. Furthermore, applicant should note that the arguments presented are more valid if the claims were directed to the method of using the device as argued, which will include the operation of the device.

Applicant argues that Muellenberg fails to teach a first connector and a second connector connecting the outer sleeve and the nut. In response, applicant should note that this language is not in claim 9 and the rejection to claim 1 has clearly pointed the first connector and the second connector connecting the outer sleeve and the nut. Applicant further argues, in respect to claim 1, that the reference fails to disclose "the first and second connectors substantially impede forward and rearward axial movement of the outer sleeve relative to the nut". In response, applicant should note that the connectors rejected in claim 1 inherently have this property. Further, the examiner has taken its broadest reasonable interpretation of the term "impede" since once the device is stationary in use, the first connector connected with the second connector inherently impedes forward and rearward axial displacement of the outer sleeve since the connectors act as stoppers. In conclusion, applicant appears to place more structure to the connectors in the arguments presented when the rejected claims do not require the structure of the connectors as shown.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-282-7083. The examiner can normally be reached from 9:30-5:30. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached at 571-272-7087.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EG

E.G.

September 26, 2006

Attachment: one marked-up page of Soussloff, 4,600,334



DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Art Unit: 3679

Soussloff, 4,600,334

